## ABSTRACT OF THE DISCLOSURE

A magnetic recording medium comprises a non-magnetic substrate, a non-magnetic undercoat layer, a magnetic layer, and a protective film, the layers and film being successively formed on the substrate. The non-magnetic undercoat layer has a multi-layer structure formed of at least two layers and contains a layer A formed of a material selected from a Cr-Ta based alloy, a Cr-Nb-based alloy, a Cr-Ti based alloy, a Cr-Zr-based alloy, and a Cr-Hf-based alloy, and a layer B formed of a material selected from a Co-W based alloy, a Co-W-B-based alloy, a Co-Mo based alloy, a Co-Mo-B based alloy, a Co-W-Mo based alloy, and a Co-W-Mo-B based alloy. The layers A and B are provided in this order from the non-magnetic substrate. A process for producing the medium comprises exposing the surface of the layer B to an oxygen atmosphere.